

**ACTIVE MODE LINE VOLTAGE REGULATOR  
FOR RINGING SUBSCRIBER LINE INTERFACE CIRCUIT**

**ABSTRACT**

A voltage regulator circuit arrangement limits the DC voltage applied to a tip and ring amplifiers of a subscriber line interface circuit (SLIC), each of which has a first polarity input coupled to a first current flow path to which a DC input (battery) voltage is coupled. A first current source supplies a first current derived via a low pass filter path from that flowing through the first current flow path to a second polarity input node of the tip amplifier, while a second current source supplies a similarly low pass filter path-derived second current to a second polarity input node of the ring amplifier. A voltage regulator is coupled with the first current flow path and is operative to regulate the voltage at the first polarity inputs of the tip and ring amplifiers to a regulated voltage value  $V_{reg}$ , so that the magnitudes of the first and second currents are based upon the regulated voltage value  $V_{reg}$ .